

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Patrick Carl Wiley

Serial No.: 10/622,634

Art Unit: 4571

Filed: 07/21/2003

Examiner: Cachet I. Sellman

For: **METHOD OF APPLYING A THERMALLY SETTABLE COATING TO A
PATTERNED SUBSTRATE**

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APPEAL BRIEF Pursuant to 37 CFR §41.37

Further to the Notice of Appeal filed September 23, 2008, the appellant hereby files this brief in accordance with 37 CFR §41.37 in support of an appeal from the final rejection mailed March 24, 2008 on the above-noted application. The term to file the Appeal Brief expired November 23, 2008. A Petition for a four-month extension of time is filed herewith. The Appeal Brief filing fee of \$540 and the four-month extension of time fee of \$1730 are being submitted herewith.

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Real party in interest

The real party in interest is Integrated Paving Concepts Inc, the assignee of record. An assignment from the inventor in favour of this company was recorded on December 8, 2003 at reel/frame 014181/0055.

Related appeals and interferences

There are no related appeals or interferences.

Status of claims

Claims 2, 3, 5, 13, 20-35 and 40 are cancelled. Claims 1, 4, 6-12, 14-19, 36-39 and 41 are currently pending, stand rejected, and are under appeal. No claims have been allowed or withdrawn.

Status of amendments

The Appellant filed an Amendment on September 23, 2008 concurrently with the filing of the Notice of Appeal and subsequent to the final rejection. The appellant received an Advisory Action mailed October 20, 2008 indicating the Amendment would be entered for the purposes of the appeal.

Summary of claimed subject matter

The following is a summary of the claimed subject matter. The references to the specification refer only to embodiments of the invention. The invention is defined by the claims. Accordingly, references to the applicant's specification are not meant to limit the scope of the claims at issue in any way. All references are in the specification.

The independent claims involved in the appeal are claims 1 and 36. The presently claimed invention as recited in claim 1 is a method of applying a coating (10) to a substrate (12), some embodiments of which are illustrated in Figures 1 to 8 and described at page 6, line 20 to page 10, line 2 of the specification. The method comprises (a) forming a first pattern (22) in a substrate (12), wherein said substrate (12) is an asphalt surface (12); (b) providing a first pre-formed thermally settable sheet (14), wherein said sheet (14) is formed of thermoplastic material; (c) providing at least one further pre-formed thermally settable sheet (14); (d) placing said first pre-formed sheet (14) and said at least one further pre-formed sheet (14) on said asphalt surface (12) in an aligned configuration; and (e) gradually heating said sheets (14) *in situ* to a temperature sufficient to bond said sheets (14) to said asphalt surface (12) in a configuration conforming to said first pattern (22).

Claim 36 is directed to a method of applying a coating (10) to a substrate (12), some embodiments of which are also illustrated in Figures 1 to 8 and described at page 6, line 20 to page 10, line 2 of the specification. The method comprises (a) forming a first pattern (22) in said substrate (12), wherein said substrate (12) is an asphalt surface (12); (b) placing a first pre-formed thermally settable sheet (14) on said substrate (12), wherein said sheet (14) is formed of thermoplastic material; and (c) heating said sheet (14) *in situ* to a temperature

sufficient for said sheet (14) to adhere to said substrate (12) in a configuration conforming to said first pattern (22), wherein said sheet (14) comprises a first surface (16) which is placed in contact with said asphalt surface (12) and a second surface (18) which is not placed in contact with said asphalt surface (12), and wherein the step of heating said thermoplastic sheet (14) *in situ* comprises gradually increasing the temperature of said sheet (14) to enable said first surface (16) of said sheet (14) to bond consistently to said asphalt surface (12), said heating comprising providing a heating apparatus (26) having a support frame (28) extending over said sheet (14) and at least one heater (30) mounted on said support frame (28), wherein said heater (30) is mounted for movement relative to said support frame (28) in a travel path which periodically passes over said sheet (14) to thereby gradually increase the temperature thereof.

There are no means plus function or step plus function limitations in any of the pending claims.

Grounds of rejection to be reviewed on appeal

The following grounds of rejection are to be reviewed:

1. Claims 1, 4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5215402) in view of Corbin et al. (US 4854771), Pacey (EP0041335), and Wiley (US 5653552).
2. Claims 11, 12, 14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5215402) in view of Corbin et al. (US 4854771) and Pacey (EP0041335), and further in view of Eigenmann (US 3235436).
3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5215402) in view of Corbin et al. (US 4854771) and Pacey (EP0041335), and further in view of 3M Application of Stamark Pre-cut symbols and legends.
4. Claims 18 and 19 stand as rejected according to Form PTOL-326 of the Office Action mailed 3/24/2008 and Form PTOL-303 and the introductory paragraph at page 2 of the Office Action mailed 10/20/2008, but no grounds of rejection have been provided by the Examiner.
5. Claims 36-39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbin et al. (US 4854771) in view of Stowell et al. (US 5215402) and further in view of Wiley (5653552).

Argument

1. Claims 1, 4 and 6-10 are rejected under 35 U.S.C. 103(a)

The Examiner has rejected claims 1, 4 and 6-10 under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5215402) in view of Corbin et al. (US 4854771), Pacey (EP0041335) and Wiley et al. (US 5653552).

Stowell et al. relates to a process patented by the appellant for forming impressions in asphalt surfaces. This process is discussed at page 1 of the appellant's application. The Stowell et al. process is designed to imprint asphalt to simulate the appearance of cobblestones or brick. After the template is removed and the asphalt is allowed to harden, a thin layer of cementitious coating may be applied to the imprinted asphalt surface to enhance the brick and mortar effect.

Corbin et al. relates to a method of installing preformed pavement materials into asphalt surfaces. The asphalt is first heated until it is pliable and the preformed pavement marking material is positioned on the asphalt. The marking material is then pressed into the asphalt surface with an asphalt roller or the like.

Pacey relates to a preformed road marking formed from a thermoplastic material and which incorporates a reinforcement. The preformed road marking may be heat bonded to the road surface.

Wiley et al. relates to a process for heating an asphalt surface by reciprocating a self-propelled vehicle comprising a series of heaters over the asphalt surface. The asphalt is heated to facilitate subsequent recycling of the asphalt.

Claim 1 includes the steps summarized above. Stowell et al. discloses a process

for imprinting asphalt when it is in a pliable state, but does not describe thermally settable sheets. Corbin et al. and Pacey describe pavement marking materials formed from thermoplastic which may be bonded to an asphalt surface using heat, but do not describe conforming the thermoplastic materials to a pre-existing first pattern formed in the asphalt.

References cannot be combined in the absence of some teaching, suggestion or motivation. According to MPEP Chapter 2143, to reject a claim based on combining references, there must be:

- (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- (2) a finding that there was reasonable expectation of success; *and*
- (3) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

With respect to requirement (1) of the test above, the Examiner has asserted that both Stowell et al. and Corbin et al. disclose processes of marking asphalt surfaces and Corbin et al. teaches the use of preformed marking material over coating because of the longer service life. It is submitted that this is an insufficient motivation to combine these references. The Stowell et al. reference describes a technique for creating a simulated brick or cobblestone pattern in asphalt. Stowell et al. advocates spreading a colored concrete slurry on the impressed asphalt surface to enhance the simulated appearance (Stowell et al., column 3, lines 56-67). The Corbin et al. material furthers its role as a pavement marking by taking on noticeable white or yellow colors (Corbin et al., column 1, lines 12-18). Such pavement marking colors are selected for their obvious and conspicuous

nature and generally are not suitable for simulating cobblestone or brick and mortar. The fact that the Corbin et al. material takes on conspicuous colors supports the conclusion that it is adapted for an entirely different purpose than the Stowell et al. invention. Accordingly, Appellant respectfully submits that there is no motivation to combine the Stowell et al. and Corbin et al. references.

Furthermore, and with respect to requirement (2) of the test above, even if Stowell et al. were combined with Corbin et al., one would not be reasonably expected to arrive at the subject matter of claim 1. Once an impressed asphalt surface according to Stowell et al. is produced, Corbin et al. teaches direct heating of the asphalt surface (rather than heating the preformed marking inlay material) to reactivate and soften the surface to favourably receive the inlay material (Corbin et al., column 2, lines 39 to 44). The inlay material is then positioned on the softened asphalt surface and press-rolled with a minimum one ton weight asphalt roller (Corbin et al., column 2, line 67 to column 3, line 6). Following the teaching of Corbin et al. would not achieve the desired result of the present invention, since rolling over a resoftened imprinted surface with an asphalt roller would likely eliminate the desired imprinted texture of the asphalt surface itself. Furthermore, rolling over the thermoplastic sheets would not be feasible given that the sheets will become tacky as the thermoplastic melts. The applicant notes that the pressing step is an essential step of the Corbin et al. teaching (and is recited in the main claim of that reference) and that eliminating this step would render the Corbin et al. teaching inoperable.

With respect to page 4 of the Office Action mailed 10/20/2008 it is submitted that Stowell et al. does not describe a process for heating asphalt "in order to apply a marking material". In Stowell et al. the asphalt is heated to a pliable state in order to form an impression in the asphalt. A cementitious coating may be applied to the imprinted asphalt surface as an additional step *after* it has been imprinted

(Stowell et al., column 3, lines 56-67).

It is submitted that neither the Pacey nor Wiley et al. references remedy the deficiencies of Corbin et al. Like Corbin et al., Pacey is a pavement marking used for traffic control purposes and the like. The Examiner refers at page 3 in the Office Action mailed 10/20/2008 to page 5, line 36 to page 6, line 4 of Pacey where markings in the shape of arrows are described. Page 2, lines 8 to 15 of Pacey refers to markings in the shape of letters, such as the letter “W”. Markings such as arrows and letters are not suitable for simulating cobblestone or brick and mortar. Further, Pacey contemplates applying the markings by way of a blow torch and the like (Pacey, page 1, line 16 to page 2, line 23), which may be reasonable for relatively smaller surface area markings such as traffic control markings but would be unsuitable for the large thermoplastic sheets to which the present application is directed (see present application, page 9, lines 2 to 10). Further, like Corbin et al., Pacey does not describe a process for conforming a thermally settable sheet to a pre-formed pattern in an asphalt surface. Therefore, it is submitted that there is likewise no motivation to combine the Stowell et al. and Pacey references in the manner contemplated by the Examiner, and one would not reasonably expect to successfully arrive at the subject matter of claim 1 even if these references were combined.

As indicated above, Wiley et al. relates to the field of heating asphalt to facilitate recycling thereof. Wiley et al. does not relate to the field of simulating cobblestone or brick and mortar patterns in asphalt or press rolling pavement marking materials formed from thermoplastic. Accordingly, with respect to requirement (1) of the MPEP test above, it is submitted there would be no motivation for combining Wiley et al. with the other references noted above. Even if one were to combine Wiley et al. with Corbin et al. and Stowell et al. as suggested by the Examiner at page 4 of the Office Action of 10/20/2008, again

one would not reasonably expect to successfully arrive at the subject matter of claim 1 pursuant to requirement (2) of the MPEP test above since softening the asphalt as taught by Wiley et al. and then press rolling a thermoplastic sheet on it with a asphalt roller as taught by Corbin et al. would likely eliminate the first pattern formed in the asphalt surface.

It is therefore submitted that claim 1 recites a combination of steps that is not disclosed or suggested in the cited references and is allowable. It is submitted that claims 4 and 6-10 depend from an allowable base claim and are similarly allowable.

Further, in regard to claims 6-10, claim 6 recites the step of providing a heating apparatus having a support frame extending over the sheets, wherein at least one heater is mounted for movement relative to the support frame in a travel path which periodically passes over the sheets to thereby gradually increase the temperature thereof. It is submitted that none of the references cited by the Examiner disclose the subject matter of claim 6. Wiley et. al discloses a vehicular apparatus which travels on an asphalt surface. Wiley et al. does not disclose an apparatus for heating thermally settable sheets and, in particular, does not disclose an apparatus comprising a heater mounted for movement relative to a support frame as recited in claim 6 as amended. It is submitted that the Wiley et al. vehicular apparatus comprising heaters would not be suitable for travel directly on thermoplastic sheets, especially as the sheets become tacky as the thermoplastic melts. With regard to claim 8, the Examiner contends at the bottom of page 4 of the Office Action mailed 10/20/2008 that Wiley "teaches gradually heating the sheet to a temperature of 100-190°C". It is submitted that this is incorrect as Wiley does not disclose heating thermally settable sheets formed of thermoplastic. The passage identified by the Examiner refers to heating asphalt rather than thermoplastic sheets.

2. Claims 11, 12, 14 and 16-17 are rejected under 35 U.S.C. 103(a)

The Examiner has rejected claims 11, 12, 14 and 16-17 under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5,215,402) in view of Corbin et al. (US 4854771), Pacey (EP0041335) and further in view of Eigenmann (US 3235436).

The Stowell et al., Corbin et al. and Pacey references are described above.

Eigenmann relates to road marking equipment for the marking of traffic lines and the like on the pavement of streets and highways. Eigenmann describes how sheet material may be applied on a pavement surface in uninterrupted or spaced strip lengths. Eigenmann does not disclose markings applied in a configuration conforming to a pattern formed in the pavement. With reference to Figure 4 of Eigenmann, road markings applied in a pattern are illustrated, but, as understood, the pattern does not match an underlying pattern formed in the pavement. Further, like Corbin et al. and Pacey, Eigenmann is a pavement marking used for traffic control purposes and the like. Such marking materials are not suitable for simulating cobblestone or brick and mortar in an asphalt surface. Accordingly, there would be no motivation for combining Eigenmann with the teachings of Stowell et al. As explained above, Stowell et al. describes a process for imprinting asphalt for simulating the aesthetically pleasing features of paving stones or cobblestones for decorative purposes. In particular, Stowell et al. discloses spreading a colored concrete slurry on the impressed asphalt surface to achieve a brick and mortar or simulated cobblestone effect. (Stowell et al., column 3, lines 56-67). There is no suggestion in Stowell et al. that any advantage would be achieved by applying strips of road marking as taught Eigenmann in the simulated grout lines (i.e. the impressions) formed between simulated stones or bricks.

In regard to claim 14 at the middle of page 6 of the Office Action mailed 10/20/2008, it is believed that the Examiner is intending to refer to claim 17. In any event, it is submitted that Figure 4 of Eigenmann does not show markings partially surrounded by another one of the markings.

Further, the Examiner contends that Stowell et al. shows the features of dependent claims 16 and 17. It is submitted that this is incorrect since such claims recite sheets of material. The cementitious coating of Stowell et al. is not a pre-formed thermally settable sheet within the meaning of the present claims.

In summary, it is submitted that claims 11, 12, 14 and 16-17 depend from an allowable base claim, namely claim 1, and are similarly allowable. Further, it is submitted that there is no motivation to combine Eigenmann with Stowell et al. or the other prior art references for the reasons indicated above.

3. Claim 15 is rejected under 35 U.S.C. 103(a)

The Examiner has rejected claim 15 under 35 U.S.C. 103(a) as being unpatentable over Stowell et al. (US 5215402) in view of Corbin et al. (US 4854771), Pacey (EP0041335) and further in view of 3M Application of Stamark Pre-Cut symbols and legends. 3M Stamark tape and pre-cut symbols form large road markings (e.g., 'RR' and a large 'X' for a railroad crossing) that look nothing at all like cobblestone or brick and mortar. The Appellant respectfully submits that one would not be motivated to overlay a railroad crossing symbol on the imprinted asphalt surface of Stowell et al. since this would not achieve or enhance the desired brick and mortar or cobblestone appearance. Also, it is submitted that claim 15 depends from an allowable base claim, namely claim 1, and is similarly allowable.

4. Claim 18 and 19 rejected

Claims 18 and 19 stand as rejected according to Form PTOL-326 of the Office Action mailed 3/24/2008 and Form PTOL-303 and the introductory paragraph at page 2 of the Office Action mailed 10/20/2008. However, since no grounds of rejection have been provided by the Examiner, it is submitted that these claims

should be allowed.

5. Claims 36-39 and 41 are rejected under are rejected 35 U.S.C. 103(a)

The Examiner has rejected claims 36-39 and 41 under 35 U.S.C. 103(a) as being unpatentable over Corbin et al. (US 4854771) in view of Stowell et al. (US 5215402) and further in view of Wiley (5,653,552).

Claim 36 corresponds to previous claim 6 which the Examiner previously indicated in the Office Action mailed 01/10/2007 would be allowable if rewritten in independent form. Claim 36 has been amended in a manner similar to claim 6 and is submitted to be similarly allowable. To the extent that the Examiner has raised additional objections against claims 6 since the Office Action mailed 01/10/2007, the applicant relies on its arguments above with respect to claim 1, upon which claim 6 depends. Also, as mentioned above in regard to claim 6, Wiley et al. does not disclose an apparatus for heating thermally settable sheets and, in particular, does not disclose an apparatus comprising a heater mounted for movement relative to a support frame. The Examiner contends at the bottom of page 4 of the Office Action mailed 10/20/2008 that Wiley "teaches gradually heating the sheet to a temperature of 100-190°C". It is submitted that this is incorrect as Wiley does not disclose heating thermally settable sheets formed of thermoplastic. The passage identified by the Examiner refers to heating asphalt rather than thermoplastic sheets. Similarly, the passage identified by the Examiner at column 7, lines 49-62 at page 10 of the Office Action mailed 10/20/2008 describes known apparatuses for heating asphalt surfaces rather than thermally settable sheets wherein the heater is mounted on a self-propelled vehicle which travels directly on the asphalt. It is therefore submitted that claim 36 recites a combination of steps that is not disclosed or suggested in the cited references and is allowable. It is submitted that claims 38 and 41, which depend from allowable

base claim 36, are similarly allowable.

It is also submitted that claims 37 and 39, which depend from allowable base claim 1 as discussed above, are similarly allowable.

Summary

The appellant submits for the foregoing reasons that the Examiner's rejections of independent claims 1 and 36 and dependent claims 4, 6-12, 14-19, 37-39 and 41 were erroneous and reversal of such rejection is respectfully requested.

Respectfully submitted,

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Claims Appendix

Claim 1: A method of applying a coating to a substrate comprising:

- (a) forming a first pattern in said substrate, wherein said substrate is an asphalt surface;
- (b) providing a first pre-formed thermally settable sheet, wherein said sheet is formed of thermoplastic material;
- (c) providing at least one further pre-formed thermally settable sheet;
- (d) placing said first pre-formed sheet and said at least one further pre-formed sheet on said asphalt surface in an aligned configuration; and
- (e) gradually heating said sheets *in situ* to a temperature sufficient to bond said sheets to said asphalt surface in a configuration conforming to said first pattern.

Claim 4: The method as defined in claim 1, wherein said thermoplastic material is coated on said asphalt surface in a thickness between 30 - 150 mil.

Claim 6: The method as defined in claim 1, wherein said heating comprises providing a heating apparatus having a support frame extending over said sheets and at least one heater mounted on said support frame, wherein said heater is mounted for movement relative to said support frame in a travel path which periodically passes over said sheets to thereby gradually increase the temperature thereof.

Claim 7: The method as defined in claim 6, wherein said sheets are heated to a temperature between approximately 150 - 450 °F.

Claim 8: The method as defined in claim 7, wherein said sheets are heated to a temperature between approximately 300 - 400 °F.

Claim 9: The method as defined in claim 1, wherein said step of forming said first pattern comprises:

- (a) heating said asphalt surface until said surface is pliable;
- (b) placing a template on said asphalt surface;

- (c) imprinting said template into said asphalt surface to form said first pattern; and
- (d) removing said template from said asphalt surface.

Claim 10: The method as defined in claim 1, wherein said step of forming said first pattern comprises:

- (a) forming said asphalt surface from pliable asphalt;
- (b) placing a template on said asphalt surface;
- (c) imprinting said template into said asphalt surface to form said first pattern; and
- (d) removing said template from said asphalt surface.

Claim 11: The method as defined in claim 1, wherein at least said first sheet is formed in a second pattern matching said first pattern and alignable therewith.

Claim 12: The method as defined in claim 1, wherein at least said first sheet is subdividable into a plurality of discrete sections.

Claim 14: The method as defined in claim 1, wherein said sheets are aligned adjacent one another in non-overlapping relation, wherein edges of adjacent sheets are contiguous.

Claim 15: The method as defined in claim 1, wherein said sheets are aligned adjacent one another in overlapping relation.

Claim 16: The method as defined in claim 14, wherein said first pattern comprises a plurality of impressions simulating grout lines and wherein said edges of adjacent sheets are aligned with said simulated grout lines.

Claim 17: The method as defined in claim 1, wherein said sheets are aligned such that one of said sheets at least partially surrounds another one of said sheets.

Claim 18: The method as defined in claim 1, wherein each of said sheets has a continuous upper surface.

Claim 19: The method as defined in claim 1, wherein said sheets have at least one opening formed therein.

Claim 36: A method of applying a coating to a substrate comprising:

- (a) forming a first pattern in said substrate, wherein said substrate is an asphalt surface;
- (b) placing a first pre-formed thermally settable sheet on said substrate, wherein said sheet is formed of thermoplastic material; and
- (c) heating said sheet *in situ* to a temperature sufficient for said sheet to adhere to said substrate in a configuration conforming to said first pattern,

wherein said sheet comprises a first surface which is placed in contact with said asphalt surface and a second surface which is not placed in contact with said asphalt surface and wherein the step of heating said thermoplastic sheet *in situ* comprises gradually increasing the temperature of said sheet to enable said first surface of said sheet to bond consistently to said asphalt surface, said heating comprising providing a heating apparatus having a support frame extending over said sheet and at least one heater mounted on said support frame, wherein said heater is mounted for movement relative to said support frame in a travel path which periodically passes over said sheet to thereby gradually increase the temperature thereof.

Claim 37: The method as defined in claim 1, wherein said sheets are placed on said substrate after said first pattern has been formed therein.

Claim 38: The method as defined in claim 37, wherein said heating said sheets *in situ* comprises applying heat to said sheets after said placing from a location above said sheets without contacting said sheets.

Claim 39: The method as defined in claim 6, wherein said heating apparatus does not contact said sheets during said heating.

Claim 41: The method as defined in claim 36, wherein said heating apparatus does not contact said sheet during said heating.

Evidence Appendix

No evidence is relied upon in the Appeal.

Related Proceedings Appendix

There are no related proceedings.